

RB151G THRU RB157G

List

List..... 1

Package outline..... 2

Features..... 2

Mechanical data..... 2

Maximum ratings and Electrical characteristics2

Rating and characteristic curves..... 3

Pinning information.....4

Marking..... 4

Bulk packing.....4

Suggested thermal profiles for soldering processes..... 5

High reliability test capabilities.....6

RB151G THRU RB157G

1.5A Glass Passivated Single-Phase Bridge Rectifiers-50-1000V

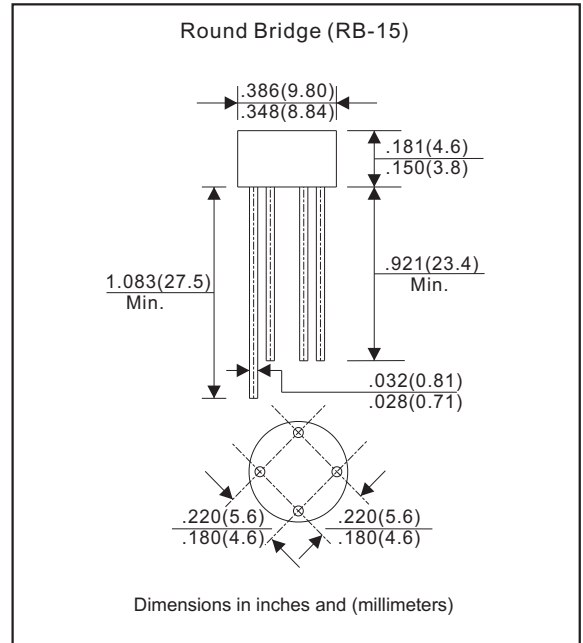
Features

- Surge overload rating 40 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique results in expensive product
- Lead-free parts for green partner, meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. RB151G-H

Mechanical data

- Case: Potted plastic round body RB-15
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: As marked
- Mounting Position: Any

Package outline



Maximum ratings and Electrical characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_o			1.5	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			40	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R			10.0	uA
	$V_R = V_{RRM} T_J = 100^\circ\text{C}$				1000	
I^2t Rating for fusing	$t < 8.3$ ms	I^2t			6.64	A^2s
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
RB151G	50	35	50	1.10	-55 to +150
RB152G	100	70	100		
RB153G	200	140	200		
RB154G	400	280	400		
RB155G	600	420	600		
RB156G	800	560	800		
RB157G	1000	700	1000		

- *1 Repetitive peak reverse voltage
- *2 RMS voltage
- *3 Continuous reverse voltage
- *4 Maximum forward voltage per element @ $I_F=1.5\text{A}$

Rating and characteristic curves (RB151G THRU RB157G)

Fig. 1 - Forward Current Derating Curve

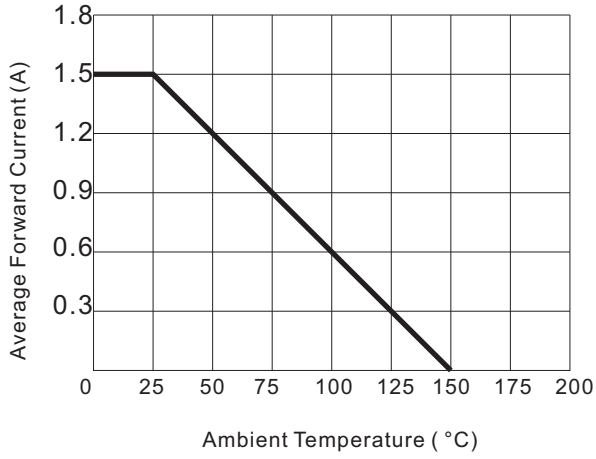


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

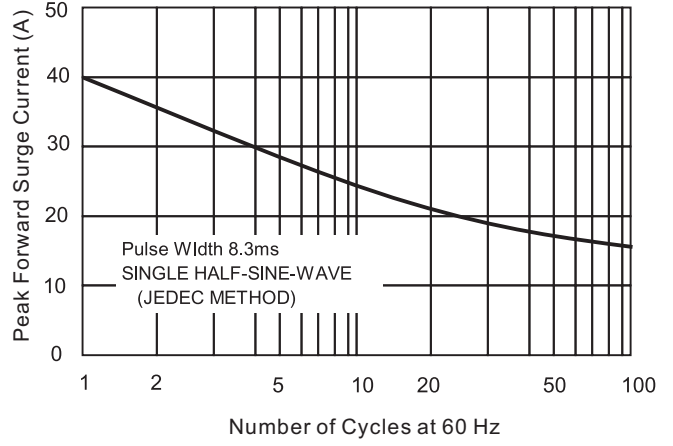


Fig. 3 - Typical Instantaneous Forward Characteristics (Per Leg)

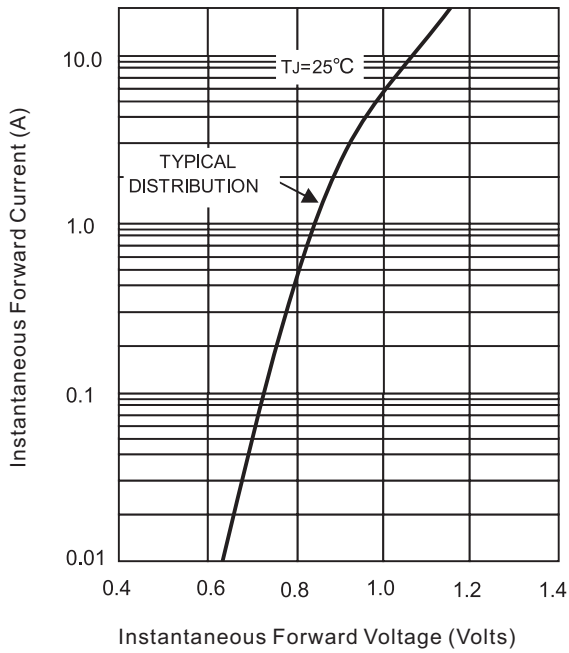
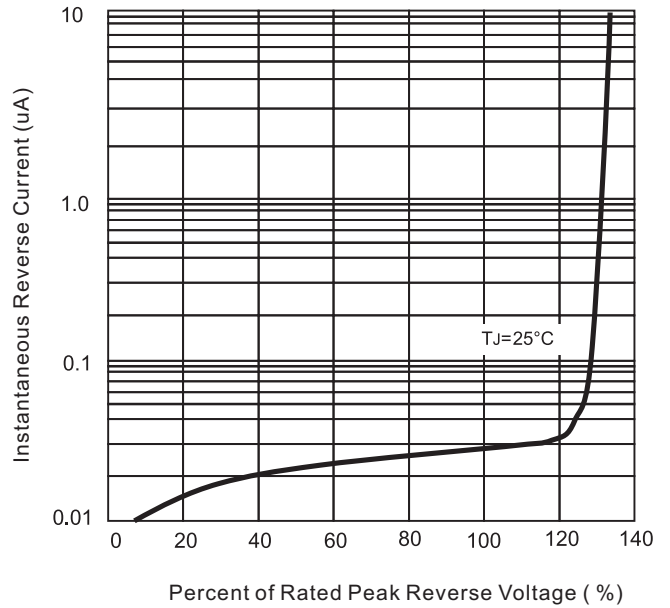

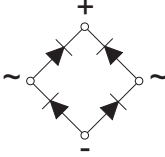


Fig. 4 - Typical Reverse Characteristics (Per Leg)



RB151G THRU RB157G

Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
RB151G	RB151G
RB152G	RB152G
RB153G	RB153G
RB154G	RB154G
RB155G	RB155G
RB156G	RB156G
RB157G	RB157G

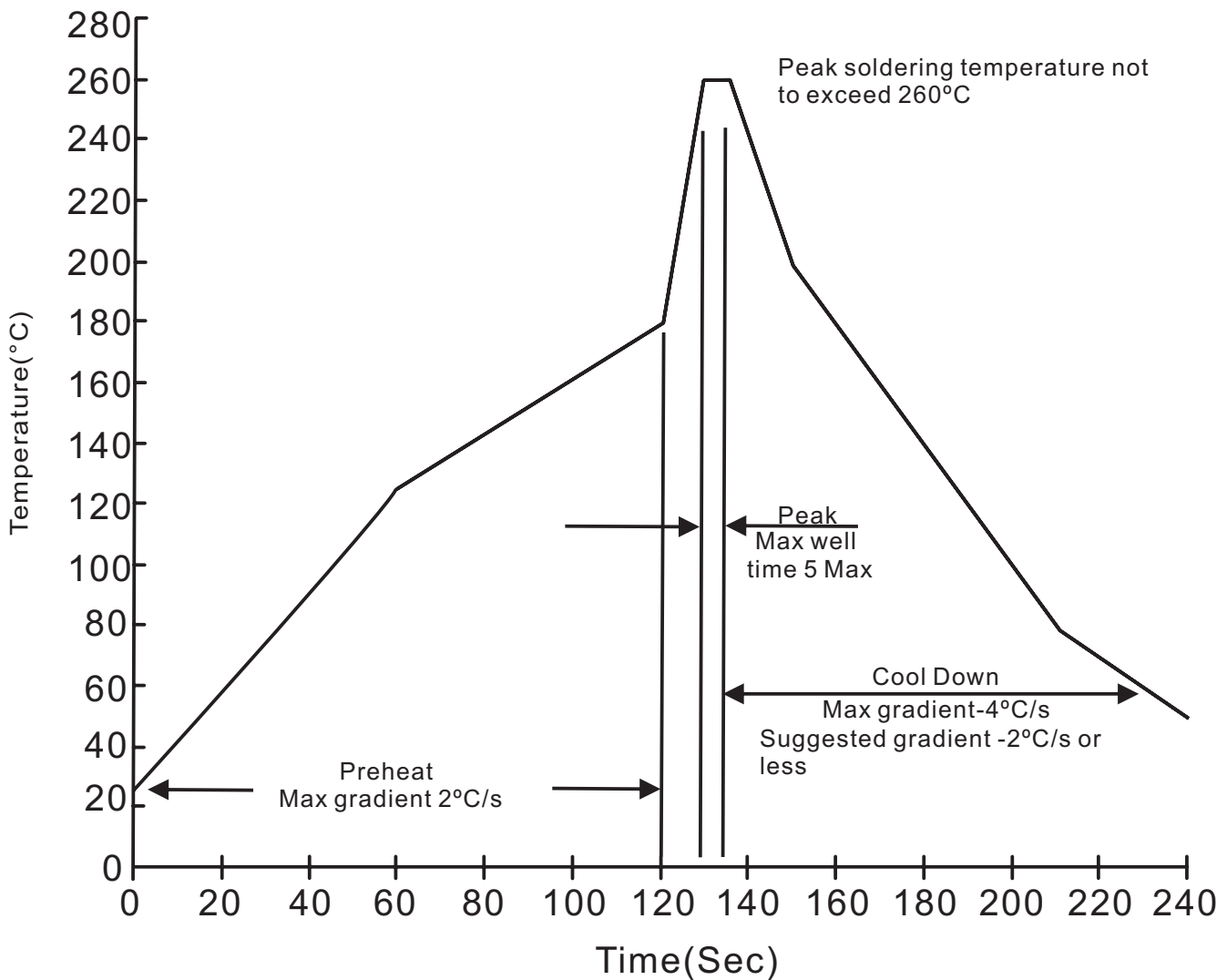
Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
RB-15	1,000	230*230*49	490*240*310	10,000	13.0

RB151G THRU RB157G

Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



RB151G THRU RB157G

High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32"	MIL-STD-750D METHOD-2031
2. Solderability	at 245±5°C for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R=80\%$ rate at $T_J=150^\circ\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A=25^\circ\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^\circ\text{C}$, $I_F = I_o$ On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	$15P_{SIG}$ at $T_A=121^\circ\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to +125°C dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave , one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A=85^\circ\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031